

VERMONT PAYMENT FOR ECOSYSTEM SERVICES & SOIL HEALTH WORKING GROUP
PROGRAM OBJECTIVES, ELEMENTS AND ASSUMPTIONS

(With revisions based on the 4/19/2022 Working Group meeting in track changes and Goals developed by Coordinating Team)

Caveats

- Precise terms, definitions and details will need to be developed later

Purpose

- Farmers are paid for producing ecosystem services

Vision:

A Payment for Ecosystem Services and Soil Health program in Vermont will support long-term environmental and economic sustainability of Vermont agriculture by paying for outcomes that promote climate regulation, provide clean water, and support the broader ecosystem. Payments under this program will be a new funding stream for farm operations and support the economic health of Vermonters engaged in agriculture.

Goals:

The PES Program we develop will:

- Compensate farmers for reaching a clearly defined, high standard of stewardship
 - Quantify stewardship using a small number of feasible metrics/measurements
 - Address stewardship across the whole farm
 - Focus on soil health as a key indicator of overall stewardship
 - Ensure that metrics and associated compensation are clearly and directly linked to specific, quantifiable ecosystems services, such as carbon storage, nutrient, soil and stormwater retention, and ability to support biodiversity
- Support farms of all types and scales
 - Make efforts to reach farms who are not served by current programs
 - Make efforts to reach historically underserved farmers
- Be efficient with time and funding to ensure that a high return is provided to the farmer and society
 - Design program to minimize overhead and administrative costs, the number of tools used, the asks of farmers, and the extent of technical services that will be required. Where possible, use existing tools and coordinate with existing funding programs, research initiatives, technical assistance organizations, and farmer learning networks
 - Ensure that payments to each farmer exceed efforts expended by that farmer, and that adequate technical assistance is provided to assist farm to enroll.

Commented [HS1]: What is the primary goal – support IMPROVEMENTS or HIGH LEVEL of stewardship? Is both possible? Important group discussion (can lead to decisions around Threshold vs Baseline). As currently coming out of goal-setting exercise, high standards (Threshold) are dominant.

Commented [HS2]: Needs to be defined

Commented [HS3]: Needs to be defined

Commented [HS4]: These elements should potentially be ranked/prioritized

- Support farms to expand production of ecosystem services through enhancements to operations and management
- Increase public understanding and appreciation of the critical role of agriculture in healthy landscapes
- Continually improve
 - Incorporate research to support agricultural innovation, adaptive management and development of new practices and tools, and adapt program accordingly
 - Track program results and make improvements to the program as needed

Goals (forthcoming)

Framework:

Ecosystem services to be Produced

1. Erosion reduction
2. Carbon storage
3. Phosphorus and nitrogen retention
4. Flood mitigation
5. Biodiversity

1. Water quality regulation
2. Soil retention and regulation
3. Climate regulation (through carbon, water, and nutrient cycling)
4. Water filtration and flood regulation
5. Biodiversity

Focal Point

1. Focus on, but not exclusive to, soil health
2. Initial phasing focused on soil, field, and edge of field
3. Later phases focused on whole farm

Eligibility

1. All farmers¹ are eligible to participate in the program if they are in good standing with the Required Agricultural Practices (RAPs)
2. Disadvantaged farmers² have additional technical assistance to participate³
3. Farmers are paid a base fee to participate, at least in the first year(s), which in turn will require certain paperwork, data gathering and soil sampling

Commented [HS5]: People did stay quite high-level in their initial goal-setting so homing in on some lower-level goals with the full group (e.g. intended scope of the project – is Year 1 goal to enroll fewer farms paid more vs enroll more farms paid less? What about in future years?) could provide additional granularity that could help guide the working group, especially as they start to think how a pilot would ideally be positioned in size and scale and effort and degree of polish etc relative to the eventual full program.

Commented [BC6]: How do we avoid adverse selection?

Commented [BC7]: How do we narrow down eligibility for the pilot phase?
First come first serve? Geography? Scale?

¹ RAP definition? USDA definition? Other? \$2,000 sales or 4 or more than acres

² USDA definition? Other?

³ Socially Disadvantaged Farmers and Ranchers (SDFR) could also be given a higher rank in proposal review

Program Phasing

1. The program will be phased in to allow for implementation in 2023 but able to grow in the services it pays for over time
2. The program will start as a one-year pilot/demonstration at the scale funding allows to move action forward soon, learn, and get payments into farmers' hands for producing ecosystem services.
- ~~2.3. The pilot will seek to be representative of the outcomes it seeks to achieve and the diversity of farms it intends to reach.~~
- ~~3.4. The pilot program will be administered by the AAFM because of its authorities, and expertise staffing and ability to get going sooner but the ultimate program administrator⁴ will be determined during the pilot, later and suggestions put forward now~~
- 4.5. The PES WG will stay engaged throughout to support, monitor, and provide guidance of the pilot program including making final recommendations for a full-fledged program and its administration based on the pilot/demonstration and its lessons

Program Elements

1. The program will pay for ecosystem services, ~~but may do so through evidence-based practices, modeling of outcomes enhanced by Vermont-specific data, and/or in field measured outcomes based on outcomes, which may be determined via real-time measurements, modelling and intermediary tools, and/or other methods~~
2. The program, over time, will address the whole farm but will begin with individual fields and edge of field within a farm chosen by the farmer
3. The program will use tiering that could involve: 1) enrollment and basic data collection and soil testing; 2) payments for widely supported evidence-based practices that produce ecosystem services; 3) payments for soil health and other measured outcomes with more extensive monitoring and sampling; 4) potential research or innovation tier (i.e., California program approach).
4. The program will incorporate a research element to: 1) monitor and provide analysis for program development and adaptive management; and 2) support innovation, adaptive management and development of new practices and tools over time
5. The program will integrate farmer learning networks and other collaborative tools for co-production of benefits and improvements to the program overall over time.
6. The program will utilize existing technical support avenues ~~(SWCD) for list all possible avenues~~ to support implementation and the farmers.
- ~~7. The program will seek to provide high return to the farmer and society by managing overhead and administrative costs, the number of tools to be used, the asks of farmers, and the extent of technical services required. Value must equal or exceed effort made by farmers.~~
7. To the greatest extent possible, the program will seek to use existing tools, data interoperability, and tools from existing programs for efficiency and ease of use.

⁴ Note that data privacy is related to the funder's requirements not the administrator's

8. The pilot will identify ways to deploy technical assistance in an effective and efficient manner, in part, by using existing talent on the ground through such means as the conservation districts, extension, and the farmer watershed groups.

Program Tools

1. A Vermont-tailored Cornell Comprehensive Assessment of Soil Health (CASH) test will be developed during Year One but a standard or modified CASH test will be used in Year One as the Vermont-tailored ~~one version~~ is developed.
2. ~~Exact models to be used are to be determined but could include RSET, APEX, others, or some combination.~~ Farmer-led tools (like observation and in-field tests) will also be incorporated wherever possible.
3. ~~Whatever models are used, they should be applicable or tailored to are preferred to be process-based to be more tailored and specific to~~ Vermont.

Payments

1. Payments will be based on evidence-derived values that consider both society's willingness to pay (WTP) and farmer's willingness to accept (WTA)
2. The program and the pilot will seek to maximize funding from a variety of sources to the extent possible (state, federal/NRCS, and other sources).
- 2-3. ~~The program will pay for:~~ 1) practices that lead to quantifiable outcomes; 2) outcomes that are produced through various practices; 3) some combination of the two.
- 3-4. ~~Payments are for:~~ 1) *measured improvements in soil health from their farm's baseline (field, soil type, cropping type, etc.);* 2) *having a soil health score that is equal to or greater than a stated threshold (field, soil type, cropping type, etc.);* 3) *some combination (TBD);* 4) *how to account for payments for biodiversity and other potential non-soil health metrics?*

Public and Farmer Engagement

1. The program will involve an education and outreach component to help farmers and members of the public understand how ecosystem services benefit quality of life in the state.

Pilot Development Process

1. WG will develop program parameters and elements by 31 May 2022, based on the UVM work to date, case studies, suggested program designs offered to date to the WG, and discussions and dialogue among the WG.
2. AAFM plus small design team of PES WG members will work June-August 2022 to develop the program in detail based on the WG's parameters.
3. WG will be kept informed via at least bi-weekly email updates.
4. The PES WG may want to engage farmers in the program parameters and elements in early summer 2022, if possible, for comment and feedback.
5. The Design Team will report back to the PES WG in September 2022.

Commented [BC8]: The state has been using models for measuring large P reduction against a statewide baseline, which can be adjusted. It's important to be aware of how the state is thinking about adjusting for local factors in making models.

Commented [BC9]: Does the WG want the program to be one that produces ecosystem services in a cost-effective manner or means by which farmers can earn a livable wage?

Commented [BC10]: Address how farm's baseline would be determined.

Commented [BC11]: The WG needs to have a plan for ensuring that farmers can remain engaged during farming season.

6. The PES WG will refine and hone final issues and questions with the Design Team.
7. The pilot program will then be finalized, and implementation will begin by 31 December 2022.

IV. The Working Group's Vision

The Working Group envisions a system in which farmers are hired to use their ingenuity and know-how in caring for the land to rebuild Vermont's natural capital.

The group aims to catalyze a paradigm shift in how farmers are acknowledged and empowered to perform their essential roles of environmental stewardship as well as providing food and fiber. We envision a future where farmers are recognized as land stewards, where they are compensated from numerous and diverse income streams for their provision of a range of ecosystem services, and where the public invests in the rebuilding and restoration of our state's natural capital.

This paradigm shift involves transforming or expanding from:

- Farming land to stewarding it;
- Compensation for only crops and commodities to compensation for additional ecosystem services too;
- A focus on fields to one on landscapes;
- Compensation for practices (e.g., cover crops) to payment for performance (e.g., tons of soil retained) and investment in natural capital
- Modeling to monitoring; and,
- Assistance programs to realigned and internalized incentives, including through markets.

While each of these changes will occur at different times, some will be more complex than others, and some may never fully be achieved, together, these changes could transform how and what we in Vermont farm.

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